



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

APR 17 2008

OFFICE OF
AIR AND RADIATION

Barbara Dankmyer
Environmental Manager
INVISTA Camden Plant
P.O. Box 7000
Camden, SC 29021

Re: Petition to Use Alternative Missing Data Substitution at INVISTA's
Camden Plant (Facility ID (ORISPL) 880057)

Dear Ms. Dankmyer:

The United States Environmental Protection Agency (EPA) has reviewed your March 13, 2007 petition, which was corrected by letter dated November 29, 2007, under 40 CFR 75.66(f), in which INVISTA requested to use alternative substitute data for nitrogen oxides (NO_x) concentration at its Camden Plant. EPA approves the petition, in part, as discussed below.

Background

INVISTA owns and operates two coal-fired boilers, Units 3 and 4, at its Camden, South Carolina Plant ("Camden Plant"). Emissions from Units 3 and 4 are discharged to the atmosphere through a common stack, identified as CS01. Units 3 and 4 are stoker-type industrial boilers, capable of producing 220 klb of steam per hour. According to INVISTA, the units are subject to the NO_x Budget Trading Program (NBP). Therefore, INVISTA is required to monitor and report the NO_x mass emissions and heat input during the ozone season¹ for these units in accordance with Subpart H of 40 CFR Part 75. In order to satisfy the emission monitoring requirements of Part 75, INVISTA has installed, certified, operated, and maintained continuous emission monitoring systems (CEMS) for NO_x concentration, oxygen (O₂), and volumetric flow rate at the common stack. INVISTA began reporting emissions data from Camden Units 3 and 4 under the NBP in May 2003. Further, INVISTA was required to hold allowances equal to the units' ozone season NO_x mass emissions starting in May 2004.

The March 13, 2007 petition states that INVISTA conducted a complete evaluation of the Camden Plant's CEMS program in 2006. INVISTA acquired the Camden Plant from E.I. DuPont de Nemours Company (DuPont) on May 1, 2004. This evaluation revealed that certain data in the plant's electronic data reports (EDRs) for the

¹ The ozone season extends from May 1 through September 30 each year. However, the 2004 compliance period for INVISTA was May 31 through September 30.

2003, 2004, and 2005 ozone seasons did not meet the quality-assurance requirements of Part 75. Based on this evaluation, INVISTA agreed to resubmit EDRs that would correct the reporting errors by:

- 1) Applying the correct default moisture value for bituminous coal in the NO_x mass emissions calculations from 2003-2006;
- 2) Invalidating several periods of NO_x concentration and volumetric flow data in 2003, 2004, and 2005 to reflect failed or absent daily calibration error tests and flow monitor interference tests that were not properly identified by Camden Plant's data acquisition and handling systems (DAHS) software;
- 3) Invalidating the volumetric flow data for the entire third quarter of 2005 as a result of failure of the flow-to-load test for the second quarter 2005;
- 4) Invalidating approximately 20 days of NO_x concentration data from a like-kind replacement NO_x analyzer in the second quarter of 2005, in the absence of records of a required linearity test; and
- 5) Invalidating approximately 10 days of anomalously low NO_x concentration data recorded in the third quarter of 2005.

INVISTA hired a contractor to make these corrections and to regenerate the EDRs for the 2003, 2004, 2005, and 2006 ozone seasons. Because the corrections required invalidation of NO_x and flow rate data that was previously reported as quality-assured, the hourly percent monitor data availability (PMA) values for these parameters were substantially lowered. The standard missing data procedures in §75.33 were then applied, and the hourly, quarterly, and cumulative ozone season NO_x mass emissions were recalculated. The impact of these adjustments to the 2004, 2005, and 2006 ozone season NO_x mass emissions is shown in Table 1 below. Table 1 shows that the use of standard missing data substitution would result in an additional 337 tons of NO_x mass emissions being reported for the three year period from 2004-2006, with the vast majority of the increase (288 tons) occurring in 2005.

**Table 1: Impact of Standard Missing Data Substitution on
2004-2006 NO_x Mass Emissions
(Camden Plant, CS01)**

Ozone Season	2004	2005	2006
NO _x Tons Previously Reported	156	217	273
Additional NO _x Tons---Recalculated	12	288	37
Total NO _x Tons After Recalculation	168	505	310

According to INVISTA, the principal cause of the sharp increase in the recalculated NO_x mass emissions in 2005 is that an unrepresentatively high value of the maximum potential NO_x concentration (MPC) was used in the calculations. Section 75.33(c)(4) states that, when the PMA of a NO_x concentration monitoring system is less than 80.0 percent for a given operating hour within a missing data period, the owner or

operator must report the MPC for that hour. For the 2004, 2005, and 2006 ozone seasons, Table 2, below, shows both the number of missing data hours for which the recalculated NO_x monitor PMA was below 80.0 percent and the MPC value that was used to recalculate the NO_x mass emissions for each of those ozone seasons. The additional NO_x tons is shown only for those hours in which the MPC was applied.

Table 2: 2004-2006 Ozone Season Missing Data Hours with NO_x PMA < 80.0% and NO_x Mass Emissions from Application of the MPC (Camden Plant, CS01)

Ozone Season	2004	2005	2006
Number of Ozone Season Hours with PMA < 80.0%	0	645	445
Maximum Potential NO _x Concentration (ppm)	800	800	425
Additional NO _x Tons from Application of MPC	0	227	74

For the recalculated 2004 ozone season data, the PMA of the NO_x monitor remained above 80.0 percent for each missing data hour, and the MPC was never used for missing data substitution. The 12 additional tons of NO_x for 2004 resulted from applying the other standard missing data algorithms. However, in 2005, due to the invalidation of large amounts of data, there were 645 missing data hours in which the NO_x monitor PMA was below 80.0 percent. Application of the high MPC value shown in Table 2 (i.e., 800 ppm) to those hours resulted in 227 additional NO_x tons in 2005. In 2006, although there were 445 missing data hours in which the NO_x monitor PMA was below 80.0 percent, the MPC value used in the calculations (i.e., 425 ppm) was considerably lower than the 2005 value. Consequently, the number of additional NO_x tons for 2006 (i.e., 74) was much lower than for 2005.

According to INVISTA, DuPont, the previous owner of the Camden Plant, elected to use the default NO_x MPC value of 800 ppm for a coal-fired boiler from Part 75, Appendix A, section 2.1.2.1(a), and reported that MPC value in the 2004 and 2005 EDRs. INVISTA believed that the 800 ppm MPC value was unrepresentatively high. Therefore, in accordance with section 2.1.2.1(e) of Appendix A to Part 75, INVISTA changed the MPC to 425 ppm prior to the 2006 ozone season, based on a review of the historical NO_x concentration data recorded during the 2003, 2004, and 2005 ozone seasons.

In the March 13, 2007 petition, INVISTA stated that using the 800 ppm MPC value in the recalculations for the 2005 ozone season grossly overstates the NO_x mass emissions from Camden Units 3 and 4. The 800 ppm value is more than twice the average NO_x concentration measured at the stack, based on the quality-assured data recorded in the 2003-2006 ozone seasons. INVISTA also believes that the MPC value of 425 ppm used to recalculate the 2006 emissions data overstates the NO_x emissions, although not nearly as much as the 800 ppm MPC value. According to INVISTA, the recalculations brought to light the unrepresentative nature of these MPC values.

INVISTA stated that a more appropriate MPC value for the recalculations is 327.5 ppm, and INVISTA requested that this value be used in the recalculations for all four ozone seasons (2003-2006) in lieu of the 800 ppm and 425 ppm values. The 327.5 ppm value is the third highest NO_x concentration value ever recorded since INVISTA

began reporting the Camden Plant's NO_x mass emissions to EPA in 2003. INVISTA rejected the two historical hourly NO_x concentrations that were higher than 327.5 ppm (i.e., 377.0 ppm and 419.2 ppm), believing them to be anomalous when compared against the NO_x concentration values recorded in the immediately preceding and following hours.

EPA's Determination

EPA approves INVISTA's petition to use as an alternative maximum potential NO_x concentration, but approves a value of 425 ppm rather than the requested 327.5 ppm value, for the purposes of recalculating the Camden Plant's NO_x mass emissions for the 2003-2006 ozone seasons. The basis of this approval is as follows:

- EPA is persuaded that the 800 ppm MPC value used in both 2004 and 2005 is inconsistent with historical data for Camden Plant and therefore results in substitute data that grossly overstate Camden Plant's maximum emissions. The 800 ppm figure is a default value that is almost 200% of the highest historical hourly NO_x concentration measured at the Camden Plant (i.e., 419.2 ppm).
- Part 75, Appendix A, section 2.1.2.1(c) provides that "the initial MPC value is subject to periodic review under section 2.1.2.5 of this appendix. If an MPC value is found to be inappropriately high or low, the MPC shall be adjusted in accordance with section 2.1.2.5, and corresponding span and range adjustments shall be made, if necessary." Section 2.1.2.5 states that "the owner or operator shall make a periodic evaluation of the MPC...for each NO_x monitor (at a minimum, an annual evaluation is required) and shall make any necessary span and range adjustments, with corresponding monitoring plan updates...." Consistent with these provisions, INVISTA chose an MPC of 425 ppm prior to the 2006 ozone season, based on a review of the historical NO_x concentration data recorded during the 2003, 2004, and 2005 ozone seasons. While INVISTA now claims that the value it chose is too high, EPA agrees that a lower value could have been chosen for the MPC but does not find that 425 ppm grossly overstates the Camden Plant's maximum emissions. In fact, using the 425 ppm value, rather than INVISTA's proposed 327.5 ppm, changes the total NO_x tons for each year during 2004-2006 by less than 10%. Consequently, EPA sees no basis for approving alternative substitute data that is not based on the 425 ppm value chosen by INVISTA in accordance with Part 75. Therefore, EPA approves an MPC value of 425 ppm for use in the recalculations for 2004-2006.
- Table 3, below, shows that a total of 230 additional tons of NO_x will be reported for the 2004-2006 ozone seasons if the approved MPC value of 425 ppm is used in the recalculations. EPA believes that using the approved MPC value and the resulting alternative substitute data still overstate Camden Plant's NO_x mass emissions and are consistent with the purposes of the Part 75 standard missing data procedures, which are: (1) to ensure that emissions are not underreported; and (2) to provide strong incentive for owners and operators to ensure that monitoring systems are properly operated and maintained.

**Table 3: Impact of the Approved Alternative MPC Value on the
2004-2006 NO_x Mass Emissions
(Camden Plant, CS01)**

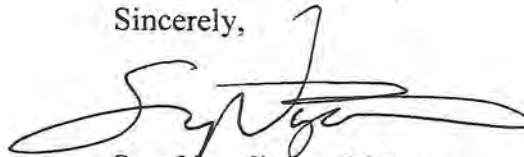
Ozone Season	2004	2005	2006
NO _x Tons Previously Reported	156	217	273
Additional NO _x Tons---Recalculated	12	181	37
Total NO _x Tons After Recalculation	168	398	310

The conditions of this approval are as follows:

- 1) INVISTA shall resubmit the 2nd and 3rd quarter EDRs for 2003-2006 for Camden Plant common stack CS01, no later than April 30, 2008. Please contact Kevin Tran of my staff, at (202) 343-9074, for assistance with the resubmittals;
- 2) INVISTA shall make all of the above-described corrections to the EDRs for 2003-2006;
- 3) INVISTA shall report a substitute data value of 425 ppm in EDR record type (RT) 201, column 32, for each missing data hour in the 2003-2006 ozone seasons in which the PMA of the NO_x concentration monitor was below 80.0 percent. INVISTA shall report a method of determination code (MODC) of "55" in RT 201, column 30, for each of these hours;
- 4) In the resubmitted EDRs, INVISTA shall not change the NO_x MPC, span and range values that were originally reported in EDR record type 530. However, in the 3rd quarter, 2006 report, INVISTA shall report a NO_x span closeout date and hour of "September 30, 2006, hour 23" in columns 76 and 82 of RT 530; and
- 5) INVISTA shall contact Kenon Smith of my staff, at (202) 343-9164, to resolve the NO_x allowance accounting issues associated with the Camden Plant for the 2004-2006 ozone seasons.

EPA's determination relies on the accuracy and completeness of the information provided by INVISTA in the March 13, 2007 petition and in the November 29, 2007 letter and is appealable under Part 78. If you have any questions or concerns about this determination, please contact Venu G. Ghanta, at (202) 343-9009. Thank you for your continued cooperation.

Sincerely,



Sam Napolitano, Director
Clean Air Markets Division

cc: David McNeal, EPA Region IV
Stacey Gardner, South Carolina DHEC
Kevin Tran, CAMD
Kenon Smith, CAMD
Venu Ghanta, CAMD